

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. Reconsideration of the subject patent application in view of the present remarks is respectfully requested.

Interview

An applicant initiated an interview occurred on August 11, 2011. The examiner James F. Hook, and Applicant's attorney Nobuhiko Sukenaga participated in the interview. The examiner proposed an alternative after-final argument in order to overcome the final rejection.

Claim Rejections - 35 USC § 112

Claims 1-3, 5, 6, 8-11, 14-24, 26, and 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully request withdrawal of the rejection for at least the following reasons.

According to the Advisory action, the examiner agreed to drop the above new matter rejection under 35 U.S.C. 112, first paragraph. Thus, the rejection as it applies to claims 1-3, 5, 6, 8-11, 14-24, 26, and 27 should be withdrawn.

Claim Rejections - 35 USC § 103

Claims 1-3, 5, 6, 8-11, 14-24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glejbol (559) in view of Greco, De Ganahl and Braad. Applicants respectfully request withdrawal of the rejection for at least the following reasons.

Regarding claim 1, none of Glejbol (559), Greco, De Ganahl and Braad, alone or in combination, discloses, teaches or renders foreseeable that the two or more armouring layers comprises at least two armouring layers wound with opposite winding angles, said outer protective sheath comprises at least two protective layers of helically wound composite wires, said at least two layers being wound with essentially opposite winding angles and being locally held together, and wherein the armouring layers are not chemically bonded to the inner liner or to possible intermediate layers or membranes but are able to move relative to the inner liner or the possibly intermediate layers or membranes.

Claim 1 requires the presence of both at least two armouring layers wound with opposite winding angles and at least two protective layers of helically wound composite wires with essentially opposite winding angles. In other words, claim 1 requires two different pairs of layers and each pair of layers are wound with opposite winding angles. None of Glejbol (559), Greco, De Ganahl and Braad discloses such two different pairs of oppositely wound layers.

The Office action states that Glejbol (559) discloses an armouring layer 5, 6, and an outer protective sheath formed from helically wound composite wires in two layers that are oppositely wound 7, 8. However, there is no disclosure in Glejbol (559) that the armouring layers 5, 6 are also wound with opposite winding angles. As shown in Fig. 1 of Glejbol (559), the armouring layers 5, 6 are not wound with opposite winding angles. Glejbol (559) is silent about using two different pairs of oppositely wound layers in a flexible pipe.

Greco is merely cited to teach that it is old and well known in the art to form composite pipe layers of wound bundles of fibers, according to the Office action and the Advisory action. The hose disclosed in Greco comprises only one pair of oppositely wound layers 25, 26, as

shown in Fig. 3 of Greco. No other layers in Greco are oppositely wound. There is no disclosure in Greco that the hose comprises two different pairs of oppositely wound layers.

The Office action also states that Braad discloses an armouring layer 4, and an outer protective sheath formed from helically wound composite wires in two layers that are oppositely wound 5, 6. However, as with Glejbol (559), there is no disclosure in Braad that the armouring layer 4 comprises two layers wound with opposite winding angles. As shown in Fig. 1 of Braad, the armouring layer 4 is only one layer and is not wound with opposite winding angles. Braad is silent about using two different pairs of oppositely wound layers in a flexible pipe.

De Ganahl is merely cited to teach that it is old and well known in the art to form the outermost layer of pipe either of a counter wound tape which forms the outermost solid layer, according to the Office action. Claim 1 requires at least two armouring layers wound with opposite winding angles and able to move relative to the inner liner or the possibly intermediate layers or membranes, and at least two protective layers of helically wound with essentially opposite winding angles and being locally held together. Although De Ganahl discloses several pairs of tapes applied to the pipe, there is no disclosure in De Ganahl that one pair of the tapes is able to move relative to the inner liner or the possibly intermediate layers or membranes and the other pair of the tapes is locally held together. The tapes of De Ganahl are not bonded by a glue or a localized melting. Also, since the pipe structure of De Ganahl is not a flexible pipe, none of the tapes appear to be able to move relative to the other layers.

Accordingly, the combination of Glejbol, Greco, De Ganahl and Braad does not meet all of the limitations of claim 1. Therefore, the asserted combination of Glejbol, Greco, De Ganahl and Braad does not render claim 1 obvious. Thus, withdrawal of the rejection as it applies to claim 1 is respectfully requested.

Claims 2-3, 5, 6, 8-11, 14-24, 26, and 27 which are directly or indirectly dependent from claim 1 should be allowable for at least the same reason as claim 1.

In addition, regarding claim 5, none of Glejbol (559), Greco, De Ganahl and Braad, alone or in combination, discloses, teaches or renders foreseeable that said at least two protective layers are held together by at least one discrete string of binding material located on said adjacent surfaces of contact, said string of binding material extending in a longitudinal direction of the flexible pipe and crossing the composite wires of said protective layers.

Claims 1-3, 5, 6, 8-11, 14-24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glejbol (559) in view of Greco, Atwell and Braad. Applicants respectfully request withdrawal of the rejection for at least the following reasons.

Regarding claim 1, none of Glejbol (559), Greco, Atwell and Braad, alone or in combination, discloses, teaches or renders foreseeable that the two or more armouring layers comprises at least two armouring layers wound with opposite winding angles, said outer protective sheath comprises at least two protective layers of helically wound composite wires, said at least two layers being wound with essentially opposite winding angles and being locally held together, and wherein the armouring layers are not chemically bonded to the inner liner or to possible intermediate layers or membranes but are able to move relative to the inner liner or the possibly intermediate layers or membranes.

None of Glejbol (559), Greco and Braad discloses the above feature of claim 1, as discussed above regarding the U.S.C. 103(a) rejection against claims 1-3, 5, 6, 8-11, 14-24, 26, and 27 over Glejbol (559) in view of Greco, De Ganahl and Braad.

Atwell is merely cited to teach that it is old and well known in the art to form the outermost layer of pipe either of a counter wound tape which forms the outermost layer which

can be embedded in and forming the outermost wall, according to the Office action. The hose disclosed in Atwell comprises only one pair of oppositely wound layers 3, 5. No other layers in Atwell are oppositely wound. There is no disclosure in Atwell that the hose comprises two different pairs of oppositely wound layers. The outer jacket 7 of Atwell does not comprise a pair of oppositely wound layers. Figures 1 and 4 of Atwell show stripes in the outer jacket 7. However, these strips are not present on the outer jacket 7, but come from the layer 5. Since the outer jacket 7 is transparent, the layers 5 and 3 are visible therethrough (column 10, lines 36-38) with the stripes. Thus, the fact that Figures 1 and 4 of Atwell show stripes in the outer jacket 7 does not mean that the outer jacket 7 comprises oppositely wound layers. Atwell is silent about using two different pairs of oppositely wound layers in a flexible pipe.

Accordingly, the combination of Glejbol, Greco, Atwell and Braad does not meet all of the limitations of claim 1. Therefore, the asserted combination of Glejbol, Greco, De Ganahl and Braad does not render claim 1 obvious. Thus, withdrawal of the rejection as it applies to claim 1 is respectfully requested.

Claims 2-3, 5, 6, 8-11, 14-24, 26, and 27 which are directly or indirectly dependent from claim 1 should be allowable for at least the same reason as claim 1.

In addition, regarding claim 5, none of Glejbol (559), Greco, Atwell and Braad, alone or in combination, discloses, teaches or renders foreseeable that said at least two protective layers are held together by at least one discrete string of binding material located on said adjacent surfaces of contact, said string of binding material extending in a longitudinal direction of the flexible pipe and crossing the composite wires of said protective layers.

In consideration of the foregoing analysis, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is

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determined that the application is not in a condition for allowance, the examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. NKTR-46756.

Respectfully submitted,

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